sections of the genus *Astralium*. This process is followed by the obsolescence of the inner lateral teeth, shown in certain species of *Astralium* in which the cusps of these teeth are absent. The same course had been followed in the Neritopsidæ, where, as Dr. Fischer has shown, the central and inner lateral teeth have been lost. Attention was called to the anomalous radula of *Phasianella virgo* Angas, a species of *Orthomesus* in which the rhachidian tooth was replaced by a false central tooth, formed by the coalescence of the two inner lateral teeth.

Remarks on Oliva inflata, Chem., O. irisans, Lam. and other species of shells.—Mr. John Ford exhibited a large number of specimens representing *Oliva inflata* Chem. and *Oliva irisans* Lam. In referring to the various colors and forms of the series shown he called attention to the difficulties attendant upon a correct separation of the species comprised in the genus. As evidence of thereof it may be said that fully one hundred and fifty names have been applied to the species which altogether do not number more than sixty.

Mr. Tryon reduced the number to fifty-five, and a careful examination of the Academy's collection will show no reason for questioning his judgment.

Very many of the discarded names were, by Marratt and other writers, avowedly based upon color varieties only. A larger number, however, may be safely charged to the lack of opportunity for comparing the newly-discovered specimens with others already named, and an absence of the literature referring to them.

These latter difficulties can be readily comprehended if a casual glance be given to the two species under consideration, showing as they do at least twenty varieties of color, including one perfect albino, and half as many different forms. And yet a close observation will satisfy the most skeptical student that certain characters proving their specific distinction are present in each.

These conclusions apply also to several other species belonging to the genus,—markedly so to *O. ispidula* Lam. *O. araneosa* Lam., and *O. reticularis* Lam.,—each shell in the first-named species varying in color, and often in form, from either of its otherwise closely allied fellows.

While much that has been said will apply with equal force to *O. irisans*, it has been deemed best in this instance to retain several of the names formerly held as specific, but with the understanding that they be used for varieties only.

Thus we have as the type of the species, *O. irisans*, Lam., and as varieties, *concinna* Marratt, *tremulina* Lam., *erythrostoma* Lam. and *textilina* Lam.

With the series of *O. inflata* shown, there are a dozen specimens belonging to the species, but which are distinct in two characters at least from all of the others. To these the varietal name *Ovum-ralli*, has been given by the speaker. Though all of the specimens

are well developed, they are singularly pale in color, and have a more delicate structure than any of the species heretofore observed.

They are also ornamented with small chocolate-colored spots or mottlings, quite unusual to the species. Though secured in one lot, their habitat is still conjectural.

Reference was also made to a new species of *Helix*, found in the Island of New Guinea.

This the speaker had named *Helix Dentoni* in honor of the discoverer, Mr. Wm. Denton, who died while pursuing his researches in the wilds of the island mentioned. The type, which has been presented to the Academy, was received from Mr. Geo. W. Dean, of Kent, Ohio, to whom it was sent from New Guinea by the sons of Mr. Denton. Its habitat is therefore established.

The species belongs to the sub-genus *Trachia*, its nearest ally being *H. Tuckeri*, Pfr.; but it may readily be distinguished from the latter by the continuous peristome, more oblique aperture and deeper constriction of the whorl behind the lip.

In reference to the lasting character of the colors of shells when properly cared for, attention was called to a magnificent *Triton tritonis* belonging to the speaker. This specimen is 18 inches long, 11 inches high, and has an expanse of lip 6 by 9 inches. Though known to have been out of its native element for more than fifty years, the external colors are still perfectly patterned and brilliant, while the crimson and white sun-burst covering the inside of the lip is a bit of coloring which an artist might envy.

MAY 21.

The President, Dr. JOSEPH LEIDY, in the chair.

Twenty-eight persons present.

In connection with the proceedings of the Biological and Microscopical Section the following communication was made:—

On the fore and aft poles, the axial differentiation and a possible anterior sensory apparatus of Volvox minor.—Prof. J. A. RYDER remarked that he had recently had an opportunity to study a very large colony of *Volvox minor* Stein, which appeared in the aquarium jars kept in the Conservatory of the Biological Department of the University of Pennsylvania. As some of the singular features of these algæ which he had noticed were apparently unrecorded, it was desirable that they should be described in order that others should have an opportunity to more fully investigate the facts and their bearings upon the life-history of these singular organisms.

It was noticed that there was an empty pole in every colony or cœnobium. This empty or non-spore-bearing pole was always the anterior one, or that which was directed forwards in the act of locomotion, which is effected by a rotating motion of the whole